

**THE GREEN VEGETABLE BUG *NEZARA VIRIDULA* (L., 1758)  
(HEM.: PENTATOMIDAE) NEW TO BRITAIN**

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**Abstract**

Nymphs of the exotic shield bug *Nezara viridula* (L.) (Pentatomidae) were collected outdoors in London in August 2003. This cosmopolitan pest is regularly imported to the Britain with produce, but it was assumed in the past that it was unable to establish here. As 2003 had an exceptionally hot summer, it is not clear whether this species will continue to breed in the British Isles. Identification notes and a figure of adult *N. viridula* are provided.

**Introduction**

*Nezara viridula* (L.), variously known as the Green Vegetable Bug, Southern Green Stink Bug or Southern Green Shield Bug, is a very widespread pest species in Southern Europe north to Germany, North and South America, Africa, Oceania, much of Asia and Australasia (CABI, 2003). It is a pest of a wide range of commercial crops. Southwood & Leston (1959) include the bug in their list of 'Foreign species in Britain', stating that it is 'sometimes found on lettuce, grapes and other produce in vegetable shops and elsewhere' but 'unlikely to become established'. They suggest that examples found in Britain were most likely imports from Italy or the Canary Islands. The species is still regularly imported with produce and Italy is still a major source of imported specimens (see Table 1).

On the 24 August 2003 I was presenting an 'Insect Road show' at the Natural History Museum's Darwin Centre at which members of the public were encouraged to bring specimens from their gardens for identification. One visitor, Mrs D. E. Maggs, produced a jar containing an adult and a final-instar nymph of *N. viridula*, collected the previous day on tomato plants in her garden at Kingswood Avenue, Queens Park, London (TQ 243833: VC 21), where they had been observed feeding on unripe tomatoes. At the time of collection, both specimens were nymphs, but one had moulted the previous night (the other moulted two nights later). Mrs Maggs mentioned that she had noticed other specimens on the tomatoes. When I explained that it was a species not known to occur in Britain, she stated that she had not brought anything to the garden from abroad or from garden centres.

On 18 August 2003, further nymphs of *N. viridula* were sent to the Natural History Museum for identification by Mrs Judith Rose, a Museum volunteer. It transpired that these specimens had also come from Mrs Maggs but, on examination of her own tomatoes, Mrs Rose confirmed that the species was also present in her garden at Summerfield Avenue (TQ 244833), only a few hundred metres from Mrs Maggs' garden. The presence of nymphs indicates breeding, and as the nymphs are not particularly mobile, their presence in two gardens suggests that they are not the first generation.

Table 1 contains a list of some of the specimens intercepted in Britain, from the databases of the Natural History Museum, the Central Science Laboratory, Sandhutton and the Royal Horticultural Society, Wisley. The species is evidently a

very frequent import, and its failure to establish breeding colonies in the U.K. in the past is most likely due to unsuitable climatic conditions and not due to lack of potential colonists. In North America it is prevalent in the south and absent from Canada (CABI, 2003). Southwood & Leston (1959) predicted that *Nezara* would probably not establish itself in the British Isles, but it is possible that the climate has since ameliorated (so called 'global warming') sufficiently to allow it a foothold. These records show that it is now capable of producing at least one generation in southern England during the summer months, although it may be significant that 2003 was an exceptionally hot summer. It remains to be seen whether the species will survive the winter and future cooler summers.

Date	Institute	Origin	where intercepted	Product
i.1930	CSL	?	?	on Mimosa
23.ix.1967	CSL	Italy	Liverpool	on aircraft
13.ii.1970	CSL	?	Liverpool	At greengrocer
28.iv.1975	CSL	S. Africa	Bristol	Grapes
3.ix.1975	CSL	France	Lincolnshire	Grapes
21.x.1975	CSL	France	Kent	Potatoes
vi.1978	CSL	?	Goff's Oak, Herts	?
29.i.1976	CSL	India	?	in curry powder
7.iv.1977	CSL	Brazil	Surrey	Cacti
ii.1980	CSL	Canaries	Herts	Chrysanthemums
xi.1980	CSL	?	Blackheath	?
iv.1982	CSL	Italy	Spalding, Lincs	Leafy veg
1984	CSL	Malawi	Kew, Surrey	Orchids
1986	CSL	?	?	in shopping
2.iv.1991	RHS	?	London	Watercress (in shop)
7.xi.1991	CSL	Italy	Boston, Lincs.	Broccoli
9.i.1992	BMH	?	?	Can; fruit cocktail
30.ix.1992	CSL	Italy	Luton airport	Aircraft
6.iii.1998	CSL	?	?	Thyme
20.x.1998	CSL	Italy	?	Grapes
23.xi.1999	CSL	Italy	Herts.	Grapes
30.x.1992	BMNH	?	Kent	'Intercargo survey'
29.ix.1998	BMNH	?	Cornwall	Fragments of 3 from crop of 'red necked nightjar' allegedly collected dead in Cornwall.
16.ii.2001	BMNH	Italy	Hants.	?
4.vi.2003	BMNH	?	Kent	Grapes
30.vi.2003	BMNH	?	?	Eggs on supermarket green beans.

**Table 1.** A selection of records of intercepted *Nezara viridula*. Abbreviations as follows: BMNH- The Natural History Museum Enquiries Service; RHS Royal Horticultural Society, CSL; Central Science Laboratory.



Plate D. British-collected example of the Southern Green Shield Bug *Nezara viridula* (L.) on blackberries (Photo Harry Taylor, NHM).

Several southern European species have apparently established themselves in Britain in the past few years; these include the curculionids *Otiorynchus armadillo* (Rossi) and *O. salicicola* Heyden (Barclay, 2003), the coccinellids *Epilachna argus* (Geoff.) (Menzies & Spooner, 2000) and *Rhyzobius chrysomeloides* (Herbst) (Hawkins, 2001), the chrysomelid *Chrysolina americana* (L.) (Salisbury, 2002), the southern oak bush cricket *Meconema meridionale* Costa (Orthoptera: Tettigoniidae) (Hawkins, 2002) and the tamarisk bugs *Typonia brevirostris* Reuter and *T. mixticolor* (Costa) (Hemiptera: Miridae) (Barclay & Nau, 2003).

### Identification

*Nezara viridula* is a distinctive species, and at 11-15mm is larger than any native British pentatomid. It most closely resembles the Green Shield Bug *Palomena prasina* (L.), but is generally paler and narrower. Adults (Fig. 1) are uniform green, including the apex of the forewing, which is brown in *Palomena*. Some individuals of *Nezara* (though none so far noted from Britain) have the head and front margin of the pronotum creamy white. Adults also have a row of 3-5 distinctive small white spots



at the base of the scutellum (see Plate D). Larger nymphs of *Nezara* are very conspicuous, with a pattern of white and red on the dorsal surface, and red margins to the abdomen (while nymphs of *Palomena* are uniform green and brown). Chinery (1986) provides colour illustrations of the nymphs of both species (though he only shows the adult of *Palomena*). *Nezara* will not run through the key to Pentatominae in Southwood & Leston (1959: p.35). At couplet '4' the very small tubercle on the underside of abdominal segment II of *Nezara* will lead to *Piezodorus* and *Pentatomia* ('tubercle present'). The 'tubercle absent' route will fail at couplet '8', 'connexivum spotted with black markings OR without black markings'. The connexivum of adult *Nezara* has a single black marking at the apical angle of each segment, so is neither 'spotted' nor 'without'. Given the small number of very distinct species of Pentatomidae occurring in Britain, a key to the genera hardly seems necessary; *Nezara* is easily recognised by comparison with illustrations, and is only likely to be confused with *Palomena*, from which it is readily identified by the colour of the overlapping apices of the forewings (see above).

The specimens, one male and one female, are now placed in the collection of British Heteroptera at the Natural History Museum (BMNH), London.

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